

WHAT IS CLAIMED IS:

1. A multiple-light type illuminating device, comprising:
a first light source and a second light source for emitting approximately collimated light;
a light mixing member in which first optical elements that guide light emitted from the first light source in a specific direction and second optical elements that guide light emitted from the second light source in a direction parallel to the specific direction are arranged alternately; and
a pair of fly's eye lenses provided on a light-exit side of the light mixing member, wherein the first optical elements and the second optical elements are arranged in such a manner that light fluxes of respectively different light intensity distribution are incident on each of lens portions of a light-incidence side fly's eye lens in the pair of fly's eye lenses.
2. A multiple-light type illuminating device according to claim 1, wherein a ratio of a pitch between portions, each of which is formed of the first optical element and the second optical element, to a lens pitch of the fly's eye lens is set within a range other than $1 \pm$ (plus or minus) 0.2.
3. A multiple-light type illuminating device according to claim 1, wherein a ratio of a pitch between portions, each of which is formed of the first optical element and the second optical element, to a lens pitch of the fly's eye lens is set within a range other than $1/N$ (N is a natural number).
4. A multiple-light type illuminating device according to claim 1, wherein pitches between portions which are respectively formed of the first optical member and the second optical member are allowed to have variations.
5. A light mixing member having a shape in which first optical elements that guide light received from a first direction in a specific direction and second optical elements that

guide light received from a second direction in a direction parallel to the specific direction are arranged alternately, including at least two areas divided by a line perpendicular to join lines of the first optical elements and the second optical elements, wherein the join lines in a certain area out of the divided areas are deviated from the join lines in a different area out of the divided areas, so that the join lines in the certain area and the join lines in the different area are not aligned in a straight line.

6. A light mixing member according to claim 5, including a plurality of optical parts having a size smaller than that of a required light-receiving area joined in such a manner as to be deviated from one another, wherein each optical part has a shape in which the first optical elements and the second optical elements are arranged alternately, and light incident from a first direction is guided by the first optical elements in a specific direction and light incident from a second direction is guided by the second optical elements in a direction parallel to the specific direction.

7. A multiple-light type illuminating device comprising:

the light mixing member according to claim 5 or claim 6;

a first light source that is provided on the first direction and emits illuminating light toward the first optical elements; and

a second light source that is provided on the second direction and emits illuminating light toward the second optical elements.

8. A projection type video display that modulates light emitted from an illuminating device by a light valve and projects the light, comprising the multiple-light type illuminating device according to any one of claims 1 to 4 as the illuminating device.

9. A projection type video display that modulates light emitted from an illuminating device by a light valve and projects the light, comprising the multiple-light type illuminating device according to claim 7, wherein a pair of fly's eye lenses are provided on a light-emitting

side of the multiple-light type illuminating device.

10. A projection type video display according to claim 9, wherein
an image of an area border line of the light mixing member is guided to a valley portion
between lenses in a light-incidence side lens group in the pair of fly's eye lenses.